(b) if so, whether Government have arrived at any conclusion about the crash and failure of launch; and

(c) what corrective measures Government have taken to ensure next flight a successful one?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN): (a) Yes, Sir. The debris of the GSLV-F02 vehicle fell into the sea at around 6-8 km from the launch site. Efforts were made to locate and recover the rocket hardware in the sea-bed (30-40 meters deep) using ships from the Department of Ocean Development. While a few of the hardware components of the healthy engines S1, S2 and S3 were located and recovered, the hardware of the malfunctioned engine S4 could not be located.

(b) The Failure Analysis Committee has concluded that the primary cause of mission failure is due to loss of thrust in one of the liquid strap-on motors. The anomalous behaviour was due to malfunctioning of propellant regulator of the gas generator system in one of the liquid strap-on motors. This resulted in higher propellant mass flow rate than desired leading to the engine shut-off just after vehicle lift-off. The malfunctioning of the propellant regulator is attributed to the larger flow area due to manufacturing error.

(c) Based on the recommendations made by the Failure Anaysis Committee, actions have already been undertaken to further strengthen the quality control and quality assurance procedures both within ISRO and external work centres, independent inspection and quality checks by in-house agencies for all critical components and sub-assemblies on receipt from work centres, review of acceptance procedures and standards. Additional tests have also been introduced for the critical engine components.

**Putting of an Indian in space by 2014**

995. SHRI VIJAY J. DARDA: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that some detailed plans have been drawn up to put an Indian in space by 2014 and another on the moon by 2020;

(b) if so, the details thereof, including the costs involved;

(c) whether it is a fact that recently the scientific fraternity have made certain suggestions on how to improve the safety and reliability of the space capsule which would take the Indians to space; and

(d) if so, the details thereof and the steps taken/being taken to examine and implement them?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI PRITHVIRAJ CHAVAN): (a) and (b) ISRO has carried out detailed studies on feasibility of undertaking indigenous manned space missions. These studies cover the requirements of an autonomous Orbital Vehicle, life support systems, improved reliability and safety systems, crew escape system, etc. The assessment of expenditure for the manned space mission to low earth orbit is about Rs.10,000 crores spread over a period of 8 to 10 years. Manned mission to moon could be the next step.

(c) and (d) Yes, Sir. The studies carried out by ISRO were presented at a peer review meeting, which concluded that it is possible to undertake a manned mission to low earth orbit in about eight years from the date of approval. There were suggestions on several points related to technical aspects including reliability and safety requirement for manned missions. These suggestions are taken up by ISRO for further detailed assessment.

**MPLADS fund**

†996. SHRI RUDRA NARAYAN PANY: Will the Minister of STATISTICS AND PROGRAMME IMPLEMENTATION be pleased to state:

(a) whether there is any plan to enhance the Member of Parliament Local Area Development Scheme fund;

(b) if so, by when it would be implemented and if not, the reasons therefor; and

(c) the amount yet to be allocated to the nominated Members of the Rajya Sabha under this scheme and for what purpose the said amount would be used?

†Original notice of the question was received in Hindi.